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FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER	
TURNER, ASHLEY D	

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2154	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/536,874	ODAIRA ET AL.	
	Examiner	Art Unit	
	ASHLEY D. TURNER	2154	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 May 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *11/5/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-19 are rejected under 35 U.S.C. 102 (b) as being anticipated by Sumida et al hereinafter Sumida (5,877,864)

Regarding claim 1

Referring to claim 1 Sumida discloses a data processing apparatus for processing data for respective pages, comprising: a data reception unit for receiving at least data of a first format for respective pages; a data conversion unit for converting the data of the first format into data of a second format; a page data management unit for managing the data of the first and second formats in first and second page data in association with each other; and a control unit for monitoring a storage state of the data of the first format in a memory, and permitting a predetermined process for the data of the first format in accordance with the storage state. (Col. 1 lines 24 -43 Generally, for storing image data of a multiple page original document into an image memory, an image forming apparatus having an electronic sorting function reads an image of each page of the original document with an image reading device page after page and writes resulting

image data into the image memory. When a writing address of the image memory exceeds a last address of the memory while storing the image data into the memory, the image forming apparatus prohibits writing the image data into the memory thereafter, and discontinues reading of the original document at the same time. Once reading of the original document is discontinued, an operator instructs the image forming apparatus to output the image data stored in the memory to record the corresponding images on recording media to produce a requested number of sets of copies of pages of the original document which have been read and stored in the memory. After the requested number of sets of copies of such pages are made, the operator instructs the image forming apparatus to restart reading of an image of each page of the original document which remains to be copied.)

Regarding claim 2

Referring to claim 2 Sumida discloses all the limitations of claim 2 which is described above. Sumida also discloses wherein said control unit further determines whether or not the data received by said data reception unit is the data of the second format, and wherein when the received data is the data of the second format, a conversion operation of said data conversion unit is stopped. (FIG. 4 is a functional block diagram illustrating an example of a structure of the digital copying machine shown in FIG. 1. A main controller 20 controls driving of a main motor 25 which drives the photoconductor 15, the transport belt 16, the fixing unit 17, the output unit 18 and the developing unit 27,

which are shown in FIG. 1. Further, a driving force of the main motor 25 is conveyed under the control of the main controller 20 to the first, second and third feeding units 11, 12 and 13, which are shown in FIG. 1, via first, second and third feeding clutches 22, 23 and 24 respectively, and further, to the vertical transport unit 14 via an intermediate clutch 21. The main controller 20 further receives a detect signal from the original document size detector 41, which is provided under the contact glass 6 in FIG. 1, to determine a size of the original document placed on the contact glass 6. The main controller 20 controls likewise an image processing unit (IPU) 49, which is described next in detail.)

Regarding claim 3

Referring to claim 3 Sumida discloses all the limitations of claim 3 which is described above. Sumida also discloses wherein when said control unit determines that storage of the data of the first format in the memory is complete, said control unit permits said data conversion unit to start a data conversion operation from the first format to the second format. (Col.7 lines 45-60 FIG. 8 is a block diagram illustrating an example of the memory unit 292 shown in FIG. 7. The memory unit 292 includes an input data width converter 300 and an output data width converter 301 at an input side and an output side of a memory block 302 respectively. The memory block 302 has a 16 bit data width, and the input data width converter 300 converts one bit, 4 bit and 8 bit data and compressed data to 16 bit data and the output data width converter 301 converts 16 bit

data to one bit, 4 bit or 8 bit data respectively. Direct memory access controllers (DMC1 and DMC2) 303 and 304 control writing data in an address of the memory block 302 and reading data therefrom in accordance with a number of data (picture elements) which are packed in a 16 bit width and a data width of the memory block 302, a 16 bit width in this case. Further, the memory unit 292 manages addresses of the memory block 302 and the remaining storage capacity of the memory block 302 as well.)

Regarding claim 4

Referring to claim 4 Sumida discloses all the limitations of claim 4 which is described above. Sumida also discloses wherein said control unit monitors completion of the conversion operation of said data conversion unit and a storage state of the data of the second format in the memory, and permits a predetermined process for the data of the second format in accordance with the storage state. (Col. 2 lines 36-58 In order to achieve the above-mentioned objects, an image forming apparatus according to the present invention includes a device for placing thereupon a sheet of an original document, a device for reading an image of each page of the original document placed on the original document placement device, an image memory for storing therein image data of the image of each page of the original document which is read by the original document reading device, a device for outputting the image data of each page of the original document stored in the image memory, in order of pages of the original document, and a device for recording the corresponding image on a recording medium.

A controller of the image forming apparatus determines if a predetermined maximum amount of image data for one page of the original document exceeds a remaining storage capacity of the image memory each time after the original document reading device reads an image of one page of the original document and stores a resulting image data into the image memory. Then the controller prohibits reading of a next page of the original document with the original document reading device if the predetermined maximum amount of image data for one page of the original document exceeds the remaining storage capacity of the image memory.)

Regarding claim 5

Referring to claim 5 Sumida discloses all the limitations of claim 5 which is described above. Sumida also discloses wherein said control unit generates said page data management unit in response to the data reception by said data reception unit. (Col. 8 lines 16-29 FIG. 10 is a block diagram illustrating another example of a structure of the image memory system 283 in which a pixel process unit (PPU) 310 is provided outside of the memory unit 292 in place of the above-mentioned compressor 290 and the decompressor 291. The pixel process unit (PPU) 310 performs logical calculation of input data of the PPU 310 and output data of the memory unit 292, such as, for example, AND, OR, EXOR and NOT, to output to the image forming unit. A multiplexer 311 switches an input to the memory unit 292 and a multiplexer 312 switches an output of the image forming unit. This function is generally used for composing images. For

example, data from the image reading unit is composed with overlay data for a standard format which is stored in the memory unit 292 to generate a report with the standard format.)

Regarding claim 6

Referring to claim 6 Sumida discloses all the limitations of claim 6 which is described above. Sumida also discloses wherein said page data management unit is generated for data of each page received by said data reception unit, and when data including a plurality of pages are received, said page data management unit manages the first and second page data while associating respective pages with each other. (Col. 8 lines 16-29 FIG. 10 is a block diagram illustrating another example of a structure of the image memory system 283 in which a pixel process unit (PPU) 310 is provided outside of the memory unit 292 in place of the above-mentioned compressor 290 and the decompressor 291. The pixel process unit (PPU) 310 performs logical calculation of input data of the PPU 310 and output data of the memory unit 292, such as, for example, AND, OR, EXOR and NOT, to output to the image forming unit. A multiplexer 311 switches an input to the memory unit 292 and a multiplexer 312 switches an output of the image forming unit. This function is generally used for composing images. For example, data from the image reading unit is composed with overlay data for a standard format which is stored in the memory unit 292 to generate a report with the standard format.)

Regarding claim 7

Referring to claim 7 Sumida discloses all the limitations of claim 7 which is described above. Sumida also discloses wherein said control unit monitors whether or not a process execution unit for executing the predetermined process issues a request for processing the data of the first or second format, and controls said page data management unit to manage the availability of the request. (FIG. 3 is a schematic drawing illustrating an example of the touch sensitive LCD panel 31 of the operational panel 30 shown in FIG. 2. The touch sensitive LCD panel 31 displays various touch sensitive function keys, as shown in FIG. 3, including a sort function key 36 for sorting copies, a staple function key 37 for stapling copies and a mixed-size original size mode key 40 for prescribing a mixed-size original document mode, with which a size of each sheet of the original document is detected with an original document size detector 41, which is shown later in FIG. 4. The touch sensitive LCD panel 31 further includes a message display area 39 to indicate various messages, such as for example, a number of copies, conditions of the machine and the like. When the ADF 1 is opened to place an original document on the contact glass 6 for copying, the message display area 39 displays an original document end key as a touch sensitive key and a message requesting to depress the original document end key when images of all pages of the original document are read.)

Regarding claim 8

Referring to claim 8 Sumida discloses all the limitations of claim 8 which is described above. Sumida also discloses wherein the first format is one of a plurality of data formats including raw data, JBIG data, JPEG data, TIFF data, and TEXT data, and data of the second format has a JBIG data format. (Col. 8 lines 16-29 FIG. 10 is a block diagram illustrating another example of a structure of the image memory system 283 in which a pixel process unit (PPU) 310 is provided outside of the memory unit 292 in place of the above-mentioned compressor 290 and the decompressor 291. The pixel process unit (PPU) 310 performs logical calculation of input data of the PPU 310 and output data of the memory unit 292, such as, for example, AND, OR, EXOR and NOT, to output to the image forming unit. A multiplexer 311 switches an input to the memory unit 292 and a multiplexer 312 switches an output of the image forming unit. This function is generally used for composing images. For example, data from the image reading unit is composed with overlay data for a standard format which is stored in the memory unit 292 to generate a report with the standard format.)

Regarding claim 9

Referring to claim 9 Sumida discloses a data processing method for processing data for

respective pages, comprising: a data reception step of receiving at least data of a first format for respective pages; a first page data generation step of generating first page data used to manage the data of the first format; a control step of monitoring a storage state of the data of the first format in the memory, and permitting a predetermined process for the data of the first format in accordance with the storage state; a data conversion step of converting the data of the first format into data of a second format; a second page data generation step of generating second page data used to manage the data of the second format; and a page data management step of managing the data of the first and second formats in first and second page data in association with each other. (Col. 1 lines 24 -43 Generally, for storing image data of a multiple page original document into an image memory, an image forming apparatus having an electronic sorting function reads an image of each page of the original document with an image reading device page after page and writes resulting image data into the image memory. When a writing address of the image memory exceeds a last address of the memory while storing the image data into the memory, the image forming apparatus prohibits writing the image data into the memory thereafter, and discontinues reading of the original document at the same time. Once reading of the original document is discontinued, an operator instructs the image forming apparatus to output the image data stored in the memory to record the corresponding images on recording media to produce a requested number of sets of copies of pages of the original document which have been read and stored in the memory. After the requested number of sets of copies

of such pages are made, the operator instructs the image forming apparatus to restart reading of an image of each page of the original document which remains to be copied.)

Regarding claim 10

Referring to claim 10 Sumida discloses all the limitations of claim 10 which is described above. Sumida also discloses wherein in the control step, it is further determined whether or not the data received by said data reception unit is the data of the second format, and when the received data is the data of the second format, a conversion operation in the data conversion step is stopped. (FIG. 7 is a block diagram illustrating an example of an image memory system 283 which is realized by the image memory controller 65 and the image memory 66. A compressor (COMP) 290 and a decompressor (EXP) 291 are connected to a memory unit 292, and compressed data or raw data (data not compressed) is stored into the memory unit 292 by selecting an input with a multiplexer 293. The compressor (COM) 290, the multiplexers 293 and 294 and the decompressor (EXP) 291 are provided in the memory controller 65 and the memory unit 292 is provided in the image memory 66. In this case, the compressor (COM) 290 is required to operate in synchronization with an operational speed of the image reading unit and the decompressor (EXP) 291 is required to operate in synchronization with an operational speed of the image forming unit. An error during compression and decompression is detected by an error detector 295.)

Regarding claim 11

Referring to claim 11 Sumida discloses all the limitations of claim 11 which is described above. Sumida also discloses wherein, in the control step, when it is determined that storage of the data of the first format in the memory is complete, a data conversion operation is permitted to start from the first format to the second format in the data conversion step. (Col.7 lines 45-60 FIG. 8 is a block diagram illustrating an example of the memory unit 292 shown in FIG. 7. The memory unit 292 includes an input data width converter 300 and an output data width converter 301 at an input side and an output side of a memory block 302 respectively. The memory block 302 has a 16 bit data width, and the input data width converter 300 converts one bit, 4 bit and 8 bit data and compressed data to 16 bit data and the output data width converter 301 converts 16 bit data to one bit, 4 bit or 8 bit data respectively. Direct memory access controllers (DMC1 and DMC2) 303 and 304 control writing data in an address of the memory block 302 and reading data therefrom in accordance with a number of data (picture elements) which are packed in a 16 bit width and a data width of the memory block 302, a 16 bit width in this case. Further, the memory unit 292 manages addresses of the memory block 302 and the remaining storage capacity of the memory block 302 as well.)

Regarding claim 12

Referring to claim 12 Sumida discloses all the limitations of claim 12 which is described above. Sumida also discloses further comprising a process permission step of monitoring completion of the conversion operation in the data conversion step and a storage state of the data of the second format in the memory, and permitting a predetermined process for the data of the second format in accordance with the storage state. (FIG. 11 is a block diagram illustrating still another example of a structure of the image memory system 283. With this structure, both compressed data and raw data for a page of the original document which is read with the image reading unit are inputted to the memory unit 292 in synchronization with the reading operation of the image reading unit. The compressed data and the raw data are stored in different areas of the memory unit 292, and the compressed data is decompressed by the decompressor 291 immediately thereafter. If the processing with the compressor 290 and the decompressor 291 is completed before the raw data of the page is stored in the memory unit 292, then, the raw data is deleted from the memory and only the compressed data remains in the memory unit 292. When the compressor 290 and the decompressor 291 fail to complete the processing of the data before the raw data of the page is stored into the memory unit 292, an error detector 295 determines that an error has occurred, and the compressed data is deleted from the memory unit 292 and only the raw data is kept in the memory unit 292.)

Regarding claim 13

Referring to claim 13 Sumida discloses all the limitations of claim 13 which is described above. Sumida also discloses further comprising a request monitoring step of monitoring whether or not a process execution unit for executing the predetermined process issues a request for processing the data of the first or second format, and controlling the first or second page data to manage the availability of the request. (FIGS. 12 and 13 are flowcharts showing an example of a copying process according to the present invention including a process of determining if the image memory 66 will overflow. The process is executed by the main controller 20 when the print key 34 is depressed with a sort mode being selected. In this embodiment, the maximum number of picture elements are 4800 in the primary scanning direction and 6800 in the secondary scanning direction. Therefore, when image data is written in the image memory 66 with binary data, the maximum image size becomes 3985 k bytes, if 1 k byte is given by 1024 bytes. In FIG. 12, the process starts when the print key 34 is depressed in step S1, and step S2 determines if an ADF mode is selected by detecting an original document placed on the ADF 1 with the original document detector 7. If the answer in step S2 is YES, the process proceeds to step S3, and if the answer in step S2 is NO, it is determined that a non-ADF mode is selected and the process jumps to step S5. The step S3 executes a process of feeding a sheet of the original document on the ADF 1 onto the contact glass 6, and the process proceeds to step S5 when the feeding process is completed in step S4.)

Regarding claim 14

Referring to claim 14 Sumida discloses all the limitations of claim 14 which is described above. Sumida also discloses wherein the first format is one of a plurality of data formats including raw data, JBIG data, JPEG data, TIFF data, and TEXT data, and data of the Second format has a JBIG data format. (Col. 8 lines 16-29 FIG. 10 is a block diagram illustrating another example of a structure of the image memory system 283 in which a pixel process unit (PPU) 310 is provided outside of the memory unit 292 in place of the above-mentioned compressor 290 and the decompressor 291. The pixel process unit (PPU) 310 performs logical calculation of input data of the PPU 310 and output data of the memory unit 292, such as, for example, AND, OR, EXOR and NOT, to output to the image forming unit. A multiplexer 311 switches an input to the memory unit 292 and a multiplexer 312 switches an output of the image forming unit. This function is generally used for composing images. For example, data from the image reading unit is composed with overlay data for a standard format which is stored in the memory unit 292 to generate a report with the standard format.)

Regarding claim 15

Referring to claim 15 Sumida discloses all the limitations of claim 15 which is described above. Sumida also discloses A computer program characterized by making a computer execute a data processing method of claims 9 or 10. (FIG. 4 is a functional block diagram illustrating an example of a structure of the digital copying machine shown in FIG. 1. A main controller 20 controls driving of a main motor 25 which drives the photoconductor 15, the transport belt 16, the fixing unit 17, the output unit 18 and the developing unit 27, which are shown in FIG. 1. Further, a driving force of the main motor 25 is conveyed under the control of the main controller 20 to the first, second and third feeding units 11, 12 and 13, which are shown in FIG. 1, via first, second and third feeding clutches 22, 23 and 24 respectively, and further, to the vertical transport unit 14 via an intermediate clutch 21. The main controller 20 further receives a detect signal from the original document size detector 41, which is provided under the contact glass 6 in FIG. 1, to determine a size of the original document placed on the contact glass 6. The main controller 20 controls likewise an image processing unit (IPU) 49, which is described next in detail.)

Regarding claim 16

Referring to claim 16 Sumida discloses A data processing apparatus for processing data for respective pages, comprising: a data reception unit for receiving data including

a plurality of pages in a plurality of kinds of formats; a format determination unit for determining a data format for a predetermined page of the plurality of pages, and setting the data format as a reception data format(FIGS. 12 and 13 are flowcharts showing an example of a copying process according to the present invention including a process of determining if the image memory 66 will overflow. The process is executed by the main controller 20 when the print key 34 is depressed with a sort mode being selected. In this embodiment, the maximum number of picture elements are 4800 in the primary scanning direction and 6800 in the secondary scanning direction. Therefore, when image data is written in the image memory 66 with binary data, the maximum image size becomes 3985 k bytes, if 1 k byte is given by 1024 bytes. In FIG. 12, the process starts when the print key 34 is depressed in step S1, and step S2 determines if an ADF mode is selected by detecting an original document placed on the ADF 1 with the original document detector 7. If the answer in step S2 is YES, the process proceeds to step S3, and if the answer in step S2 is NO, it is determined that a non-ADF mode is selected and the process jumps to step S5. The step S3 executes a process of feeding a sheet of the original document on the ADF 1 onto the contact glass 6, and the process proceeds to step S5 when the feeding process is completed in step S4.); a data conversion unit for converting data of the reception data format into data of a basic format in the data processing apparatus; page data management unit for supporting and generating page data in the reception data format and the basic format, and managing the page data in association with each other; and a control unit for monitoring a storage state of the data of the reception data format in the memory, and permitting a

predetermined process for the data of the reception data format in accordance with the storage state. (Col.7 lines 45-60 FIG. 8 is a block diagram illustrating an example of the memory unit 292 shown in FIG. 7. The memory unit 292 includes an input data width converter 300 and an output data width converter 301 at an input side and an output side of a memory block 302 respectively. The memory block 302 has a 16 bit data width, and the input data width converter 300 converts one bit, 4 bit and 8 bit data and compressed data to 16 bit data and the output data width converter 301 converts 16 bit data to one bit, 4 bit or 8 bit data respectively. Direct memory access controllers (DMC1 and DMC2) 303 and 304 control writing data in an address of the memory block 302 and reading data therefrom in accordance with a number of data (picture elements) which are packed in a 16 bit width and a data width of the memory block 302, a 16 bit width in this case. Further, the memory unit 292 manages addresses of the memory block 302 and the remaining storage capacity of the memory block 302 as well.)

Regarding claim 17

Referring to claim 17 Sumida discloses all the limitations of claim 17 which is described above. Sumida also discloses wherein said page data management unit is generated for each page with respect to the data including the plurality of pages, and said page data management units for the respective pages are associated with each other to manage the page data of the reception data format and the basic format. (FIGS. 12 and

13 are flowcharts showing an example of a copying process according to the present invention including a process of determining if the image memory 66 will overflow. The process is executed by the main controller 20 when the print key 34 is depressed with a sort mode being selected. In this embodiment, the maximum number of picture elements are 4800 in the primary scanning direction and 6800 in the secondary scanning direction. Therefore, when image data is written in the image memory 66 with binary data, the maximum image size becomes 3985 k bytes, if 1 k byte is given by 1024 bytes. In FIG. 12, the process starts when the print key 34 is depressed in step S1, and step S2 determines if an ADF mode is selected by detecting an original document placed on the ADF 1 with the original document detector 7. If the answer in step S2 is YES, the process proceeds to step S3, and if the answer in step S2 is NO, it is determined that a non-ADF mode is selected and the process jumps to step S5. The step S3 executes a process of feeding a sheet of the original document on the ADF 1 onto the contact glass 6, and the process proceeds to step S5 when the feeding process is completed in step S4.)

Regarding claim 18

Referring to claim 18 Sumida discloses all the limitations of claim 18 which is described above. Sumida also discloses wherein said control unit monitors completion of the conversion operation of said data conversion unit and a storage state of the data of the basic format in the memory, and permits a predetermined process for the data of the

basic format in accordance with the storage state. (FIG. 11 is a block diagram illustrating still another example of a structure of the image memory system 283. With this structure, both compressed data and raw data for a page of the original document which is read with the image reading unit are inputted to the memory unit 292 in synchronization with the reading operation of the image reading unit. The compressed data and the raw data are stored in different areas of the memory unit 292, and the compressed data is decompressed by the decompressor 291 immediately thereafter. If the processing with the compressor 290 and the decompressor 291 is completed before the raw data of the page is stored in the memory unit 292, then, the raw data is deleted from the memory and only the compressed data remains in the memory unit 292. When the compressor 290 and the decompressor 291 fail to complete the processing of the data before the raw data of the page is stored into the memory unit 292, an error detector 295 determines that an error has occurred, and the compressed data is deleted from the memory unit 292 and only the raw data is kept in the memory unit 292.)

Regarding claim 19

Referring to claim 19 Sumida discloses all the limitations of claim 19 which is described above. Sumida also discloses wherein said control unit monitors whether or not a process execution unit for executing the predetermined process issues a request for processing the data of the reception data format or the basic format, and controls said page data management unit to manage the availability of the request. (Col.7 lines 45-60 FIG. 8 is a block diagram illustrating an example of the memory unit 292 shown in FIG.

7. The memory unit 292 includes an input data width converter 300 and an output data width converter 301 at an input side and an output side of a memory block 302 respectively. The memory block 302 has a 16 bit data width, and the input data width converter 300 converts one bit, 4 bit and 8 bit data and compressed data to 16 bit data and the output data width converter 301 converts 16 bit data to one bit, 4 bit or 8 bit data respectively. Direct memory access controllers (DMC1 and DMC2) 303 and 304 control writing data in an address of the memory block 302 and reading data therefrom in accordance with a number of data (picture elements) which are packed in a 16 bit width and a data width of the memory block 302, a 16 bit width in this case. Further, the memory unit 292 manages addresses of the memory block 302 and the remaining storage capacity of the memory block 302 as well.)

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ashley d. Turner whose telephone number is 571-270-1603. The examiner can normally be reached on Monday thru Friday 7:30a.m. - 5:00p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached at 571-272-1915. The fax phone number for the organization where this application or proceeding is assigned is 571-270-2603.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Patent Examiner:

Ashley Turner

Date: _____

Supervisory Patent Examiner

Nathan Flynn

Date: _____

/Nathan J. Flynn/

Supervisory Patent Examiner, Art Unit 2154